

# G

## GAD

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- Global Assessment of Functioning Scales

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- Global Assessment of Functioning Scales

## Gardner's Theory of Multiple Intelligences

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## Synonyms

Bodily-kinesthetic intelligence; Eight intelligences; Interpersonal intelligence; Intrapersonal intelligence; Linguistic

intelligence; Logical-mathematical intelligence; Musical intelligence; Naturalist intelligence; Spatial intelligence

## Definition

According to Gardner's theory of multiple intelligences, there are eight different domain-specific intelligences. The eight intelligences are: Logical-mathematical, Linguistic, Musical, Spatial, Bodily-kinesthetic, Intrapersonal, Interpersonal, and Naturalist.

## Description

Although the concepts of intelligence and intelligence testing have been reliable cornerstones of both applied and academic psychology for over a century, they have been equally reliable sources of controversy. Once such controversy is whether intelligence is best conceptualized as being a general mental ability (often referred to in the literature as *g*), or a set of mental abilities. The traditional psychometric perspective on intelligence leans heavily toward *g*, yet arguments in favor of multiple intelligences have been offered as an alternative. One of the most influential, and most frequently cited, of these theories is Howard Gardner's theory of multiple intelligences.

In his 1983 book *Frames of Mind*, Gardner (born in 1943) postulated that a multiple intelligence framework better describes human intellectual capacity than the traditional single intelligence as epitomized by such well-known intelligence tests as the Stanford-Binet and the Wechsler Intelligence Scale for Children (WISC) [2]. Using an impressive array of evidence, Gardner argued that humans simply do not display equal aptitude across domains and initially proposed a set of seven intelligences. These intelligences would constitute distinct and separate units with their own measurable and observable abilities. Each type of intelligence would be tailored to specific types of information, possess different developmental trajectories, and individuals would display competencies in these intelligences in different combinations. All intelligences are not only simply biologically based, but must be

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### Author's Note

This work represents the scholarship of the author and does not imply any official position of the New York City Department of Education.

nourished and developed by societies through valued disciplines. Gardner continued to develop and refine his theory through several publications and, in its most current form stemming from 1999's *Intelligence Reframed*, Gardner lists eight intelligences [3].

The eight intelligences are: Logical-mathematical, Linguistic, Musical, Spatial, Bodily-kinesthetic, Intrapersonal, Interpersonal, and Naturalist. Logical-mathematical and linguistic intelligences are the closest to intelligence as traditionally conceptualized. Musical intelligence is obviously linked to musical accomplishment, whereas spatial intelligence reflects accomplishment in the visual arts such as painting and sculpture and bodily-kinesthetic intelligence manifests itself in physical activity such as dance. Intrapersonal intelligence refers to self-awareness, and Gardner suggests that Sigmund Freud (1856–1939) is an exemplar of this specific type of intelligence. Interpersonal intelligence is related to leadership abilities and working with other people. Finally, naturalist intelligence is related to accomplishments in the study and appreciation of life itself; Gardner indicates that Charles Darwin is an exemplar of naturalist intelligence.

As with virtually every other aspect of intelligence as a topic of psychological inquiry, controversy exists regarding Gardner's theory of multiple intelligences. Recent critics such as Allix [1] and Waterhouse (2006a, b) note that while there are indeed many publications devoted to Gardner's theory, there are comparatively little scientific data to actually evaluate the theory. Morgan [7], while otherwise supportive, stresses the similarity of Gardner's multiple intelligences to earlier conceptualizations of cognitive styles. At the heart of the debate are the differences between Gardner and his critics regarding psychometrics and the experimental method in theory-testing. Gardner's critics take a traditional view of the worth of rigorous psychometric measurement as the core of intelligence research; Gardner is a critic of the standardized tests that result from psychometric development as well as the culture of testing that arose in response to intelligence tests. Gardner's critics regard controlled experimentation as the strongest evidence to be offered in the testing and development of theory; Gardner prefers a more holistic approach that stresses external validity. Given the diametrically opposed paradigms these two positions represent, resolution of the conflict appears unlikely.

## Relevance to Childhood Development

As is fitting given Gardner's status as a professor at the Graduate School of Education at Harvard University, his theory of multiple intelligences is quite influential among educators. Multiple intelligence theory is a framework for

courses and workshops intended for educational professionals teaching the full spectrum of children from the gifted to the developmentally challenged. Although more data is needed to evaluate the scientific merit of Gardner's multiple intelligences as a theory, his re-conceptualization of intelligence has provided a useful alternative paradigm in which educators may better assist student learning.

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## Gaussian Distribution

- Normal Curve

## Gay

- Homosexuality

## Gaze following

- Joint Attention

## Gc

- Crystallized Intelligence

## GDS

► Gordon Diagnostic System

## Gender Conformity

► Gender Roles

## Gender Development

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### Synonyms

Gender identity

### Definition

The process of identifying one's subjective sense of identity as male or female [2], neither or both.

### Description

On the most basic level, gender identity refers to individuals accepting themselves as male or female. The intersexed (intersexed/intersexuality) community includes a neither or both aspect due to the fact that there individuals are also born with characteristics pertaining to both males and females. Limiting the definition of gender identity to the categorization of solely male or female ignores individuals who do not identify as solely male or female.

Aside from the complicated process of biological sex development, or the development of internal and external genitalia is the social phenomenon of gender development or how individuals identify as male, female, neither, or both. Each child has their own unique development of gender and both biology and social learning play key roles.

### Relevance to Childhood Development

In typical western society, children are exposed to gender differences as well as gender reinforcements from before they are even born. Once a mother finds out she is pregnant, it is inevitable that she will be asked if she is having a boy or a girl. Based on the dichotomous answer, friends,

relatives and the like will often purchase gifts based on the identified biological sex of the baby. Pink items are given to girls and blue items to boys. Once the baby is born, the hospital often gives pink or blue blankets and identifying bracelets depending on the biological sex. From day one children are bombarded with proper girl toys and proper boy toys and respective colored clothing.

Some researchers believe infants have the ability to distinguish between male and female faces as young as 6 months of age [5]. However, it is not until 24 months of age that toddlers show gender specific activities including verbal differences [6]. Although, when infants and toddlers make gender distinctions, they are using superficial features such as hair length and are reported to not possess the ability to make more sound gender distinctions. This issue is referred to as a lack of gender constancy, or the understanding that being male or female is permanent and unable to change and by 3 years of age most children are still deficient with respect to this concept; however, [2] by age 6 aspects of gender constancy (i.e., gender consistency and gender stability) are evident.

As children develop they are bombarded with ►gender stereotypes and the pressures to adhere to traditional ►gender roles. Boys are not stereotypically encouraged to play with dolls; the majority of western society perceives dolls as girls' toys. Instead, boys are encouraged to play sports, play with trucks, dinosaurs, and similar toys and activities [3]. Girls are encouraged to look pretty, pretend to play house and cook, and take care of their dolls. However, if girls wish to cross the gender boundary and play with stereotypical boy toys or participate in boyish activities, they do not experience negative consequences on the same level that boys do when they choose to play with stereotypical girl toys or participate in girl activities. As children grow and develop and understand various aspects of gender, how to appropriately label different genders and what stereotypically accounts for appropriate gender roles, they begin to adopt what they feel is appropriate behavior with respect to gender. Children often evaluate their own gender as "better" and are more knowledgeable of the stereotypical appropriate behaviors associated with their own gender [4]. In general it is agreed that with increase in age comes an increase in gender flexibility, or the idea that children will make exceptions to gender stereotypes as they grow older and become more comfortable with their own gender identity and what gender identity means. However, research on this topic varies in methodology and how to measure gender flexibility thus giving exceptions to this reported linear relationship [2].

By the time children enter middle childhood and adolescence, their concept of gender identity is more

concrete and they have a more sound idea of what constitutes stereotypical gender roles. Additionally, they have a more concrete understanding of their own identity and what it means to identify as male, female, neither, or both. Occasionally, children and adolescents will have an understanding that their biological sex (that is being born with a penis or vagina) does not match their gender identity (or identifying as male, female, neither, or both). Exhibiting four of the five following symptoms can result in a diagnosis of Gender Identity Disorder [1]: (1) cross-sex behaviors, (2) cross-sex toy and activity preferences, (3) cross-sex peer affiliation, (4) cross-dressing, (5) a stated desire to be the other sex. Each child will come to terms with their gender identity in their own way and understanding. A desire to be the gender that does not match their biological sex can result in many difficult situations for the individual as well as their family; however, there are many resources available to the transgender community to foster a healthy transition for the individual and offer support and education for their family.

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## Gender Identity

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### Synonyms

Gender development; Gender identity disorder; Gender roles; Gender variance; Sexual identity; Transgender; Transsexual

### Definition

Gender identity pertains to the degree to which an individual espouses either a male or female sexual identity; it is

reflective of the degree to which individuals "feel" or conceptualize their psychological and sexual identity as male or female. Most often, gender identity matches biological sex. In cases where ones' gender identity does not match assigned sex, diagnosis of gender identity disorder (GID) may be explored.

### Description

Gender identity pertains to the degree to which an individual espouses either a male or female sexual identity; it is reflective of the degree to which individuals "feel" or conceptualize their psychological and sexual identity as male or female. Most often, gender identity matches biological sex. Specifically, most biological males espouse a male gender identity, and most biological females espouse a female gender identity. However, biological sex assignment alone is not predictive of gender identity in all cases, leading to situations in which ones' gender identity differs from their sex assignment. Gender typical behavior, including dress, mannerisms, and sexual attraction, are some of many factors that comprise gender identity. Stereotypical gender role fulfillment is also viewed by some to reflect gender identity, but is not in and of itself a strong predictor of either gender identity or sexual orientation.

Espousal of gender roles that significantly deviate from ones' biological sex, combined with reports on the part of an individual that they want to be (or feel like) a member of the opposite sex, are early indicators of mismatch between sex and gender identity, and are suggestive of GID.

### Gender Identity Disorder (GID) or Gender Dysphoria

Dissonance between biological sex and gender identity may be reported in early childhood, adolescence, or adulthood. According to the APA [1], diagnosis of GID may occur when four or more of the following criteria are met:

1. Repeatedly stated desire to be, or insistence that he or she is, a member of the opposite sex.
2. In boys, a preference for cross-dressing or simulating women's attire; in girls, insistence on wearing only stereotypically masculine clothing.
3. Strong and persistent preferences for cross-sex roles in make believe play or persistent fantasies of the opposite sex.
4. Intense desire to participate in the stereotypical games and pastimes of the other sex.
5. Strong preference for playmates of the other sex (p. 581).

Additionally, “persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex” must be manifested, must not be attributed to a physical intersex condition wherein the individual possesses both male and female genitalia, and must result in significant psychosocial impairment (p. 581).

Often, male children with disturbances in gender identity overtly reject their genitalia and express a desire to no longer have a penis; some will indicate a desire to have a vagina. Avoidance of or disinterest in stereotypical male pursuits, such as rough play, engaging in games or playing with toys most often associated with boys, or engaging in play with male playmates, is common. Open interest in stereotypical female interests, including dolls, female play mates, and wearing female clothing is frequently observed. Female children may demonstrate aversion to their genitalia by standing to urinate, suggesting that they may “grow a penis” or someday have a penis, or indicating that they do not want breasts or to menstruate. Active avoidance of feminine clothing and pursuits is also often noted, along with a preference for male dress, haircuts, playmates, and stereotypical male play activities ([1], p. 581). In adolescents and adults, individuals with GID often take active steps to live as a member of the opposite sex for some or part of the time. Many express desire to engage in hormone treatment or surgery in hopes of attaining their desired physical form, and may often indicate belief that they were “born the wrong sex” ([1], p. 581). Individuals with GID may be referred to as transgender or transsexual. The term male-to-female (MTF) is used to denote a male individual who is transgender and is living their life as a female. Female-to-male (FTM) is used to indicate a female who is living their life as a male.

Holistically, children, adolescents, and adults with GID are plagued by social and emotional discomfort resulting from the lack of congruence between their actual and desired sex. In addition to experiencing social isolation stemming from gender related differences and stigma, individuals with GID are prone to depression, anxiety, and suicide or suicide attempt [6]. Many individuals with GID do not actively pursue gender reassignment surgery, hormone therapy (testosterone or estrogen), or the use of implants, but rather choose to live their life as a member of their assigned sex. Some individuals with GID elect to live their “private” lives as the opposite sex, while their “public” gender identity matches their biological sex. The degree to which an individual actively pursues a lifestyle as the opposite sex varies considerably from person to person.

## Prevalence of Gender Identity Disorder

Due the lack of comprehensive national data collection systems assessing gender identity in the United States, data regarding prevalence in the US is unavailable. As per Sohn, Hartmut, and Bosinski [5], several researchers have identified prevalence rates in Europe due to the availability of broader, national data collection systems. In the Netherlands, the number of MTF transsexuals is approximately one per 119,000 individuals, with the number of FTM transsexuals approximately one per 11,900 individuals; in Belgium, the number of MTF’s is approximately 1 per 12,900, with one per 33,800 persons (p. 1,195). Similar prevalence rates appear to be common across Europe. MTF transsexuals typically outnumber FTM transsexuals by three to one.

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## Etiology of Gender Identity Disorder

The precise cause of disruptions in gender identity is unknown. Current theory regarding GID highlights the possibility of genetic as well as hormonal underpinnings, with relatively limited and non definitive literature supporting either of the aforementioned.

At present, twin studies have yielded the finding that GID appears to be heritable, with estimates of heritability ranging from 50 to 62% [2, 3]. However, despite the fact that genetic identity disruptions are likely heritable, to date, no research has identified how differences in gender identity are genetically coded [4]. Hormonal hypotheses suggest that prenatal hormone exposure influences the development of sex-typed behavior. However, aside from illuminating potential differences in the development of the hypothalamus as a result of hormone bathing, no definitive hormonal cause has been found.

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## Gender Identity Disorder

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### Synonyms

Gender identity; Transgenderism; Transsexualism

### Definition

Gender Identity Disorder (GID) is the diagnosis for persistent discomfort with the gender role of one's birth-assigned sex, concurrent with a strong identification as the opposite gender.

### Description

GID is the formal classification identified in the Diagnostic and Statistical Manual of Mental Disorders IV-Text Revision (DSM-IV-TR [1]) for an experience of both extreme identification with one's opposite gender, and a lack of association or comfort with the gender role of with one's birth-assigned sex. Formal assessment of the diagnosis includes a ruling out of a physical intersex experience, and the establishment of a significant level of stress in interpersonal relationships and social interactions as a result of one's gender. A diagnosis of GID by a qualified mental health professional is recommended by the World Professional Association of Transgender Health (WPATH) Standards of Care [8] for determining candidacy and readiness for a medical referral to begin hormone replacement therapy (HRT); while two mental health evaluation of GID are recommended for referrals of transgenders who seek sexual reassignment surgery (SRS).

The prevalence of GID has been estimated by identifying the number of transgenders who seek SRS, which the WPATH Standards of Care have identified as ranging from 1 in 37,000 males and 1 in 107,000 females in an early estimation, to 1 in 11,900 males and 1 in 30,400 females in a more recent estimate. A major challenge in establishing a more precise estimate exists in that the high cost of surgeries, individuals' pre-existing medical conditions, and limited esthetically satisfactory medical options (particularly of female-to-male genital surgery) do not make surgery an option for transgenders who would otherwise meet the diagnostic criteria of GID.

The GID diagnosis has been a subject of some controversy, as many transgender activists and allies have identified it as pathologizing, citing that it is based upon

a biased system of diagnosis that posits a binary model of gender [2, 3, 5, 7, 12, 13]. The argument also centers on the role of mental health professionals in assessing candidacy and readiness for hormones surgery, when many transgenders identify that the choice to migrate their bodies in concordance with gender identity should be their own [10]. Additionally, seeking mental health services for the purpose of procuring an assessment of GID is seen as artificial and counter-intuitive to a therapeutic environment of honesty, as many transgenders have identified that they tell therapists what they believe the therapists wish to hear in order to write favorable assessment letters [10].

The identification of gender as a continuum [4, 11] or spectrum [9], rather than a binary model of male and female as discrete and opposite experiences, is gaining attention within the medical and mental health community, as more helping professionals and gender researchers encounter transgender clients who do not meet the full diagnostic criteria of GID, but who identify themselves as existing between the genders. Self-identifiers such as *gender queer*, *genderless*, *bi-gendered*, and *third-gendered* have emerged along with third gender pronouns ("ze" or "sie" – rather than "he" or "she") to identify a range of experiences to that reflect a range of gender possibilities [6]. Cross-cultural examples of third gender experiences include the *hijra* of India, the *kathoey* of Thailand, and numerous examples of two-spirit tradition in Hopi, Navajo, and other Native American cultures (sometimes mistakenly referred to by non-Native researchers using the pejorative *berdache*). The Bugi ethnic group of the Indonesian island of Sulawesi acknowledges five genders that are seen as a foundation for social harmony.

### Relevance to Childhood Development

Many adult transgenders report having experienced the features of GID from earliest memory. Such reports include knowledge that one was "different," a desire to play with the toys or games more typically assigned to the other gender, and a desire to dress in the clothes or assume the appearance of the other gender. Clinically, children are referred as young as ages 2–4 [1] for mental health services, generally when gender nonconforming behaviors are a cause of concern for caregivers. Although some of these children do grow-up to identify as transgender and/or to present the features of GID, relatively few pre-school age children who demonstrate cross-gender propensities will continue these behaviors into adulthood. Generally, the malleability of behavior is

relative to a child's age. Although relatively few children who meet the diagnostic criteria of GID will become transsexuals as adults (meaning that they actively pursue hormones and sexual reassignment), many will identify as lesbian or gay in adulthood ([1]; WPATH, 2001).

GID can be a source of tremendous distress for children, with a great deal of stress often precipitated by interactions with parents, siblings, and other children who are antagonistic of the child's expression of her or his gender. Social mistreatment is often cited in teen suicide letters, and is identified as a major cause of Major Depression for transgender adolescents. Referral to a mental health professional who is knowledgeable of transgender experiences and who will be supportive of the child is advisable.

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## Gender Roles

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## Synonyms

Gender conformity; Gender identity; Gender socialization

## Definition

The behaviors, expectations, and values defined by society as masculine and feminine [4].

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## Description

Gender roles are defined differently within specific societies and cultures as each society sends messages to its members about culturally appropriate behaviors, norms, and values for men and women, based on gender. Each society or culture has its own concept of gender, which can be defined as the social construct that associates behavioral, cultural, or psychological traits as male or female. Gender is usually determined by one's biological sex (or whether one has male or female reproductive organs). However, it is possible for an individual to accept gender roles that are opposite of their birth sex.

Gender roles are often determined based on traditional stereotypes (e.g., women cook and clean, while men go to work or fix cars). Gender roles may also influence one's career choice (e.g., women are often discouraged from entering sciences or medicine, while men are discouraged from traditionally feminine careers like nursing or secretarial work). Gender roles may also be expressed through clothing or styles of dress (e.g., men wear suits and ties to formal occasions, while women wear dresses to formal occasions). In contemporary times, women may wear pants and dress shirts like men, but these articles of clothing are often feminized and/or fitted differently. Gender roles may be expressed in behavior (e.g., men express their emotions through anger or yelling, while women express their emotions through crying). Gender roles may be expressed in relationships (e.g., men have close friendships with other men where they do not discuss intimate, personal problems, while women have close friendships with other women where they discuss emotions and intimate, personal problems regularly). Gender roles may even influence personality traits that are more desirable for men or women; for example, men are

more desired to act as leaders or be aggressive, while women are more desired to be affectionate or cheerful [1].

Gender role socialization (Gender socialization, Gender conformity, Gender identity) is the process in which an individual learns and accepts roles as a male or a female. There are many ways that individuals are socialized to learn about gender roles, even from a very early age. In many Western societies, baby boys are usually dressed in blue and male toddlers are given toys like trucks and cars; baby girls are usually dressed in pink and female toddlers are given toys like baby dolls and play cooking sets. In adolescence, boys and girls receive messages about how they are supposed to behave. Adolescent girls are encouraged to be emotionally expressive, while adolescent boys are encouraged to be more controlling of their emotions [8]. And in adulthood, men may be socialized to believe that they must be providers or breadwinners of the family, while women may be socialized to believe that they must be motherly and submissive to men.

Gender role socialization may influence one's personality development. Previous literature has supported that men may be more achievement-oriented than women and that men may have a greater internal locus of control than women, but that women may possess more empathy than men [3]. Gender roles may influence achievement-orientation in that men are socialized to be more practical and unemotional; accordingly, they may view a problem or stressor as something to be overcome. Gender role expectations may impact locus of control and worldview; women may learn that stereotyping and discrimination may limit their opportunities and negatively impact their lives. Accordingly, men may perceive that they have more power in determining their present and future lives, while women may perceive that there will be other external forces that may determine their present and future lives. Gender role norms may encourage one's ability to be empathetic and emotionally-expressive. Women may be more able to relate personally and emotionally with others, and may cope by seeking social support, while men may learn that it is more acceptable to have emotional control and cope with problems individually.

Gender role socialization may also influence how individuals cope with stress and/or how mental health disparities occur for both men and women. Previous literature has supported that there is a higher prevalence of depression in adolescent girls, while there is a higher prevalence of substance use and antisocial behavior in adolescent boys [3]. Because women are taught to be emotionally expressive, there is a higher risk of depression. However, because men are not taught to be emotionally expressive of

their feelings, it may be more acceptable to cope with their depression or stress by turning to substances and/or acting out in rebellious ways. Additionally, men are likely to be more aggressive, engage in violent behaviors, and/or have conduct problems than women [2].

Gender role expectations may lead to conflict and psychological distress for women. First, gender role expectations for women imply sexism, in that they objectify and demean women, while prevent them from the same opportunities for success or equality as men [6]. Additionally, previous literature purports that women are often in conflict about being societal norms of success for women, which is defined as a woman being "nurturing, physically attractive, and passive" [7]. Additionally, many women may be resistant to be identified as "feminists" because of the negative connotations that are attributed [7]. The manifestation of these gender roles on women may lead to several psychological problems, including a decrease in self-esteem, a decrease in comfort, and feelings of anger and depression [6].

Gender role expectations may also lead to conflict and psychological distress for men. Previous literature on gender role conflict has purported that there are six patterns that lead to mental health problems for men, including: restrictive emotionality, health care problems, obsession with achievement and success, restrictive sexual and affectionate behavior, socialized control, power, and competition issues, and homophobia [4]. Additionally, gender role conflict may manifest in several situational contexts including times when men experience a gender role transition or face difficult developmental tasks, when men deviate from or violate gender role norms of masculinity ideology, or when men try to meet or fail to meet gender role norms of masculinity ideology [5].

Gender roles may vary distinctly across cultures. For example, while women in Asian or Latin American countries are taught to be submissive to men, women in the Philippines are seen as the authoritative leaders and decision-makers of the family. Additionally, while doctors in the US are traditionally stereotyped to be mostly men, doctors in Russia, Taiwan, or Germany are predominantly women. Finally, while men in the US are discouraged from expressing physical affection towards other men, it is common and acceptable for men in Spain or France to hold hands or even kiss to express their friendship. Finally, the practice of androgyny (or the acceptance of both male and female behaviors and physical traits) is common practice in some cultures. For example, many Native American tribes have described their members as "two-spirited" or individuals who fulfill an array of mixed

gender roles (physically, socially, or functionally) in their everyday lives. Two-spirited people may serve as mothers, fathers, healers or medicine persons, pottery makers, fortune tellers, and many other gender-neutral roles.

Gender roles may also have different meanings for various subcultures. Lesbian, gay, and bisexual (LGB) individuals may find themselves balancing various gender roles in their personal, romantic, and family relationships. First, by virtue of identifying as non-heterosexual and behaving accordingly, LGB individuals are already breaking gender role expectations. Second, there may be a spectrum of gender role identities for LGB individuals. Some LGB individuals may maintain strict gender roles; these individuals be involved in same-sex attractions and relationships, but may still choose to behave in "masculine" or "feminine" ways within their romantic, personal, family, or work relationships. For example, a gay man may choose to be the masculine, dominant one in his same-sex relationship (socially and sexually), while a lesbian woman may choose to be the feminine, submissive one in the relationship (socially and sexually). Conversely, some LGB individuals may identify as androgynous or a mix of masculine and feminine gender roles. For example, some lesbian women may choose to dress in gender-neutral ways and desire others not knowing what their gender or biological sex is. Finally, some LGB individuals may enjoy rebelling against gender role norms. For example, some gay or bisexual men may enjoy wearing makeup or entering professions that are considered feminine, while some lesbian or bisexual women may enjoy playing or watching masculine sports or being dominant or aggressive in their sexual and romantic relationships.

Gender roles may also have different meanings for transgender individuals. Transgender persons, whom are diagnosed with Gender Identity Disorder (GID), are defined as individuals whose self-identification as a woman, man, or neither does not match their biological sex. Because transgender individuals may feel like they were born into the wrong gender, they may struggle in accepting prescribed gender roles from a very young age. For example, if a boy identifies as a girl, but his parents force him to wear boys' clothes, play with boys' toys, and play boys' sports, this may cause him significant psychological distress.

## Relevance to Childhood Development

Gender roles are introduced in early childhood in both overt and covert ways. Gender roles may be communicated overtly (e.g., telling a boy that "Boys don't cry" or telling a girl "Young ladies don't play rough") or covertly

(e.g., buying a boy masculine toys like guns or buying a girl feminine toys like dolls). Gender roles may be learned by children through modeling (e.g., watching how parents and adults interact with each other), through the media (e.g., viewing how men and women relate with each other on television), through religion (e.g., studying messages about gender from religious leaders or historical religious figures), and through school (e.g., understanding messages that one's teacher gives them about gender). When parents, families, and other sources send messages about gender roles to their children, these messages and may have lasting impacts on individual's personality development, worldviews, and self-esteem. Gender roles in childhood may also influence an individual's perception of socially acceptable ways of coping with problems, expressing their emotions, interacting in relationships, or choosing career paths.

Gender roles can be both positive and negative in a child's development. Some gender roles may be positive in that they may encourage affirmative personality traits in children. For example, little girls may learn the importance of being affectionate, compassionate, or sensitive to the needs of others, while little boys may learn the importance of being assertive, self-sufficient, or willing to take risks. However, while these gender role traits may be positive for the gender these traits are assigned to, they may negatively impact children of the other gender. For example, little girls may learn to be submissive, shy, or soft-spoken, while little boys may learn to be competitive, forceful, or dominant.

Finally, parents and families can minimize gender role conflict in individuals by preparing them for the psychological distress that may occur as a result of gender roles. For example, teaching young girls about sexism and discrimination or teaching young boys about the pressures and negative implications of masculinity may lead to better coping mechanisms and an increase in mental health.

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## Gender Schema Theory

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### Definition

Gender schema theory states that children actively construct mental representations about what defines males and females by observing individuals in the culture in which they live. Such schemas are incorporated into the child’s self concept, aid in the search and assimilation of subsequent information that the child deems schema-relevant, and are constantly changing as the child develops.

### Description

First coined by Sandra Bem in 1981 [1], gender schema theory is a cognitive account of sex typing by which schemas are developed through the combination of social and cognitive learning processes. Through observations of individuals within a child’s culture, the child is able to observe male and female typical attributes, activities, and actions. These observations which aid in gender segregation and guide the child’s gender related actions and activities are incorporated into the child’s evolving gender schema.

The developing child begins to label him or herself as either male or female by about age 2 [6], but it is not until about age 7 that the child gains gender constancy [5] and recognizes that his or her sex is unchanging. However, even at age 2, the child is actively developing his or her schemas and incorporating them into his or her sense of self. He/She is constantly evaluating objects and activities as “boy” or “girl” things and forming his/her own schema, thereby integrating those aspects of self-definition that are appropriate for one’s own gender. Further, gender schematic cognitions are not only influenced by the child

observing others, but are also reinforced by toys, clothing, occupations, and hobbies including sports.

### Relevance to Childhood Development

The lens through which children see the world as explained by gender schema theory is used to account for sex-related behavioral differences in boys and girls. Once a child develops his/her schemas regarding proper behaviors for men and women, these schemata guide all subsequent cognitions including information processing, behavior, and memory to specific activities [1]. By assimilating these schemas into their cognitions, children develop self-concepts that include the concepts of gender and gender-specific roles. Such development of self-concept is demonstrated by those gender-schematic children behaving in more gender-typical ways than gender-aschematic children. For these children, gender-consistent information is more easily understood and remembered, while information that contradicts or doesn’t fit within the constructs of the schemas are difficult to process and are often not as easily remembered [3]. Gender schematic individuals are also more likely to be able to quickly indicate the gender appropriateness of behaviors and activities and are more readily able to recall gender specific terms and information in free recall tasks [4]. Given these findings, it is hypothesized that the attempted behaviors and associated cognitions of a child are not random, but rather determined by the child to match his/her hypothesized ►gender identity as determined through his/her schemas.

It has been hypothesized by Sandra Bem that the ideal developing child schema would not be strongly male or female gender typical; with an optimal child having both male and female associations [2]. Such ideals are believed to be possible if the parents partake in behaviors that are cross-sexed. Possible behaviors including taking turns making dinner, both parents taking part in sex-typical hobbies such as watching and playing sports, and making sure that their children have access to both male and female typical colored clothing and toys.

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## Gender Socialization

- Gender Roles

## Gender Variance

- Gender Identity

## Gene-Environment Interaction

- Diathesis-stress Model

## General Cognitive Aptitude Testing

- Intelligence Testing

## General Intelligence

The concept of general intelligence began more than 100 years ago with Charles Spearman's (1904) seminal work *General Intelligence, Objectively Determined and Measured*. Spearman proposed that all mental tests are comprised of a factor specific to each test and a general factor of intelligence, noted by *g*. One of the first tests to formally measure general ability was the Wechsler-Bellevue Scales (Wechsler, 1939) which included subtests that differed in their content but were all designed to measure general ability. All of Wechsler's tests that have been published have included an overall total score called a Full Scale score which represents general ability based on 10 to

12 individual subtests which varied in content. The content of the IQ tests developed in the early part of the 1900s included subtests, like the Army Mental Tests, which varied along the now familiar verbal, nonverbal (performance), and quantitative dimensions. Despite the varying content, all tests were intended to measure general ability. For example, some of the tests require knowledge of words and comprehension of verbal relationships; others, memory of the sequence of numbers; and others, reasoning with arithmetic and spatial stimuli. But as Wechsler (1975) wrote "...the attributes and factors of intelligence, like the elementary particles in physics, have at once collective and individual properties (p. 138)." Therefore, despite the individual demands of specific subtests, they form a cohesive whole which is general ability. Wechsler continued writing "the subtests are different measures of intelligence, not measures of different kinds of intelligence (p. 64)". More recently, Naglieri (2003) reminded us that "the term nonverbal refers to the content of the test, not a type of ability (p. 2)." Thus, tests may differ in their content or specific demands (what Spearman [1927] referred to as "indifference of the indicator" [p. 197]) but still measure the concept of general intelligence.

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## General System Theory

- Systems Theory

## Generalization

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## Definition

Generalization is "the occurrence of relevant behavior under different, nontraining conditions (i.e., across subjects,

settings, people, behaviors, and/or time) without the scheduling of the same events in those conditions as had been scheduled in the training conditions” ([2], p. 350).

## Description

The concept of generalization is particularly important in child behavior and development when changes in behavior across settings, people, or time, for example, are desired. Historically, generalization was thought to occur passively and naturally, as practitioners adopted the “train and hope” philosophy of generalization [2], whereby they acknowledged the potential for generalization to occur but did not facilitate its occurrence. However, generalization does not appear to occur naturally, so attention has recently been turned to programming for it [1–4].

The seminal piece by Stokes and Baer [2] first called attention to the fact that generalization is rarely a passive process. By systematically reviewing the generalization literature to date, Stokes and Baer [2] developed a classification system of generalization techniques used in research studies. Stokes and Baer’s contribution was important not only because it provided a thorough review of the existing generalization literature at the time and facilitated the conceptualization of generalization as an active process, but also because it provided a framework for researchers who sought to bring about lasting and widespread behavioral change in their clients/patients/participants.

Later, Stokes and Osnes [3] modified the classification system by grouping programming tactics within three general principles. That is, Stokes and Osnes reorganized, and elaborated upon, the techniques first presented by Stokes and Baer [2], with the goal of presenting a clearer picture of how to program for generalization. Within the categorization developed by Stokes and Osnes [3], twelve programming tactics fell under the general principles of (1) exploit current functional contingencies, (2) train diversely, and (3) incorporate functional mediators.

The first principle (exploit current functional contingencies) refers to the direct exploitation of the antecedent-response-consequence pathway that can influence the frequency, intensity, and/or duration a given behavior. The programming tactics under this general principle include (1) contact natural consequences, (2) recruit natural consequences, (3) modify maladaptive consequences, and (4) reinforce occurrences of generalization. Contacting natural consequences involves identifying and making use of positive consequences that naturally occur in the environment, rather than employing artificial consequences or consequences that have been programmed by the

therapist or change agent. For example, a natural positive consequence for engagement behaviors of a child who is socially withdrawn may be positive peer attention. When natural consequences are not readily identifiable or accessible, it may become necessary to recruit natural consequences – the second tactic within this principle. For example, a student can recruit the natural consequence of teacher praise by directly asking the teacher how he/she performed on an academic or behavioral task (e.g., asking the teacher “How did I do?” after successfully turning an assignment in on time). The third programming tactic of modifying maladaptive consequences is used when existing consequences are working toward maintaining an inappropriate behavior. In these cases, the maladaptive consequences must be changed in order to decrease the frequency, intensity, or duration of the inappropriate behavior. For example, if the consequence for a student’s out-of-seat behavior (avoidance behavior) is to send the student out of the classroom, it is likely that this consequence needs to be changed to encourage the student to stay actively engaged in classwork. Finally, Stokes and Osnes [3] proffered that current functional contingencies may be exploited by the reinforcement of generalization occurrences. Specifically, generalization behaviors should be noted and reinforced, such as when a student who has been taught to engage in prosocial behaviors in the lunchroom also engages in these behaviors on the playground.

The second principle (train diversely) involves the institution of less control and rigidity during training conditions. In particular, training diversely encourages change agents to broaden training goals and procedures with the ultimate goal of promoting widespread outcomes. The programming tactics under this general principle include (1) use sufficient stimulus exemplars, (2) use sufficient response exemplars, (3) make antecedents less discriminable, and (4) make consequences less discriminable. A stimulus exemplar is an aspect of training that is associated with the training condition (e.g., a change agent or the therapy room). By using sufficient stimulus exemplars (e.g., multiple change agents or several different therapy rooms), generalization can be enhanced. The literature suggests that as few as two stimulus exemplars may be sufficient. In contrast, a response exemplar can be understood as the behavior that is sought during training. An example of using sufficient response exemplars could be training students to solve a problem in many different ways. Another way generalization can be achieved with this tactic is by training subsets of behaviors that are representative of a particular class of responses. The final two tactics of this principle address discrimination

by indicating that (to enhance generalization) antecedents and consequences must be made less discriminable. In terms of antecedents, the conditions of training should vary and be flexible enough so that target behaviors are not associated only with a specific set of circumstances. For example, training could occur in natural settings at unplanned times. With regard to consequences, schedules of reinforcement should be varied, and reinforcement should be delayed when feasible.

The final principle (incorporate functional mediators) involves the use of mediators to enhance generalization. In this context, “a mediator is a stimulus that occurs between the training and the occurrence of generalization in such a way that it facilitates or mediates that generalization, probably as a discriminative stimulus for the performance of the behavior” ([3], p. 348). A mediating stimulus, then, is a stimulus that is either present in multiple conditions or a stimulus that the client can easily transport between the training condition and other settings. The programming tactics under this general principle include (1) incorporate common salient physical stimuli, (2) incorporate common salient social stimuli, (3) incorporate salient self-mediated physical stimuli, and (4) incorporate salient self-mediated verbal and overt stimuli. Essentially, the principle remains the same, while the types of stimuli differ. In particular, a physical stimulus is a physical object (e.g., a timer); a social stimulus is a person (e.g., a peer, therapist, teacher) or a characteristic of a person (e.g., a gesture someone makes); a self-mediated physical stimulus is something the client can maintain and carry with him/her between training and non-training conditions (e.g., a notebook with procedures or a self-monitoring chart); and self-mediated verbal and overt stimuli are verbalizations, thoughts, and/or cognitive strategies used by the client in relevant settings.

Using the techniques put forth by Stokes and Baer [2] and Stokes and Osnes [3], Osnes and Lieblein [4] recently examined the current state of generalization programming by reviewing generalization articles in select journals (*Journal of Applied Behavior Analysis*, *Behavior Modification*, the *Journal of Positive Behavior Interventions*, and *The Behavior Analyst Today*) from 1999 to 2002. In general, they sought to determine whether the field of generalization has moved beyond “train and hope” and found mixed results. Whereas they found researchers are assessing maintenance and incorporating the techniques identified by Stokes and Baer [2] and Stokes and Osnes [3], they also found that researchers are continuing to use interventions that are highly discriminable without long-lasting effects.

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## Generalized Anxiety Disorder

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G

### Synonyms

Anxiety disorders; GAD; Over-anxious disorder

### Definition

Generalized anxiety disorder (GAD) is an anxiety disorder that is characterized by excessive worry, more days than not, for at least 6 months. This worry can cause significant distress in both social and academic functioning.

### Description

### Diagnosis and Classification

Children diagnosed with GAD must experience excessive anxiety and worry occurring more days than not for at least 6 months. These children find it very difficult to control their anxious thoughts and which results in distress at school, home, and other areas of functioning. This worry is observed in restlessness, fatigue, irritability, muscle tension, difficulty concentrating, or sleep disturbances.

Prior to the fourth edition of the Diagnostic Statistical Manual of Mental Disorders, GAD was referred to as Over-Anxious Disorder (OAD).

### Core Symptoms

The continuous anxiety and worry characterized by GAD can occur in a variety of areas, including academics, natural disasters, sports, past behavior, or future events. Some children also worry about characteristically adult issues, such as the financial situations of their parents, relationships, punctuality, or perfectionism. When these issues begin to interfere with social adjustment and academic functioning, the anxiety becomes a cause for clinical concern.

The expression of GAD can change developmentally in both the content and the severity of the disorder. Children over the age of 12 years report more GAD symptoms and present with anxiety towards more events.

The worries experienced by children diagnosed with GAD persist despite the fact that the event is unlikely to occur. This can be partly attributed to the fact that these children overestimate the likelihood that a negative event will occur. These children also underestimate their ability to cope with these negative events and tend to catastrophize minor events.

Children with GAD tend to make more negative statements about themselves and require constant reassurance from others. As a result, they tend to present with a negative self-concept.

### Physical Complaints

Children diagnosed with GAD are likely to complain about gastrointestinal problems, which include muscle tension, nausea, diarrhea, and stomachaches. Other common physical symptoms include, but are not limited to, sweating, headaches, dry mouth, teeth grinding, and trembling. Due to all these physical complaints, most children with GAD tend to seek out consultation of a physician or an internist [1].

### Prevalence

GAD is one of the most common anxiety disorders in children. It is estimated that approximately 2–4% of children in the general population meet the diagnostic criteria for the diagnosis.

### Sociodemographic Variables

Data regarding the sociodemographic variables of children diagnosed with GAD are limited. Nevertheless, much of the research from the previous diagnosis of OAD can utilize. Children diagnosed with OAD are typically from middle-to-upper class families. Females are more frequently diagnosed with GAD.

### Etiology

The cause of GAD is unknown. However, early twin studies suggest that every anxiety disorder, with the exception of GAD, demonstrated a high monozygotic concordance. Since this study, more researchers have argued that there is a possible genetic contribution in patients with GAD. The genes are responsible for creating a general vulnerability and risk factor for these disorders [4].

GAD has also been associated with a lower metabolic rate in white matter and basal ganglia with brain-imaging

studies. Likewise, there have also been some abnormalities with sleep electroencephalogram (EEG). These studies have illustrated that those diagnosed with GAD tend to have decreased delta sleep, decreased stage 1 sleep, reduced rapid eye movement sleep, and difficulty staying asleep [4].

### Comorbid Problems

GAD is frequently comorbid with other anxiety disorders and affective disorders. Children diagnosed with GAD are also at increased risk for alcohol use as a form of self-medication [2].

### Developmental Course and Prognosis

The developmental course of GAD is unknown due to the high comorbidity rate associated with the disorder. The few studies in the literature are retrospective in nature with adults reporting the onset of symptomatology in childhood [3].

### Relevance to Childhood Development

Considering the extensiveness of the disorder, children diagnosed with GAD are likely to have problems developing and maintaining close relationships, as well as completing everyday activities [3].

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### Generation

#### ► Birth Cohort

### Generational Effects

#### ► Age-Graded Influences: Cohort

## Generativity versus Stagnation (Erikson's Middle Age)

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### Definition

Generativity is psychologist Erik H. Erikson's term for the primary developmental task of the seventh stage of the life cycle – caring for and contributing to the life of the next generation. The developmental challenge of adults in their middle years is to be procreative, productive, and creative and to overcome a pervading mood of self-absorption or personal stagnation. Generativity includes any activity that contributes to the development of others and to the life of the generations. The successful realization of generativity gives rise to the ego strength that Erikson described as the virtue of care.

### Description

Erik H. Erikson viewed generativity as the principal task of middle adulthood and used the term to highlight the adult's role "in establishing and guiding the next generation" ([3], p. 267). Erikson summed up the stages in the following way: "In youth you find out what you *care to do* and who you *care to be* – even in changing roles. In young adulthood you learn whom you *care to be* with – at work and in private life, not only exchanging intimacies, but sharing intimacy. In adulthood, however, you learn to know what and whom you can *take care of*" (p. 124). Stage 7 of the life cycle marks the time a person takes their place in society and helps to take care of the next generation. Adults' societal generativity can be in the form of creating and caring for ideas, art, children, and products. Erikson notes that those who do not have children sometimes fulfill their parental responsibility by performing other altruistic and care-related activities. For example, one can help someone else's child and still exercise generativity. Therefore, this stage does not center on having children; it centers on extending one's self to make the world a better place for the next generation [7]. Due to the nature of this stage, relationships center on the workplace, the community, and the family – places where one can both creatively contribute to and care for what has been created. Regardless of the setting, the psychosocial challenge to adults is to promote the development of others, from nurturing the growth of another person to shepherding the development of a broader community.

If adults do not master this developmental task, however, they tend to become self-absorbed and stagnant. Erikson's concept of stagnation, that is, most directly applies to the failure to become socially generative. The absence of generative care threatens the entire future of the society because generativity is "the link between the life cycle and the generational cycle" ([5], p. 258). Without generativity, inactivity and meaninglessness predominate; adults embrace "pseudo intimacy" while feeling "stagnation and interpersonal impoverishment" ([2], p. 103). They focus inward, indulging their own needs instead of the needs of others. In some sense, they become their own child. An extension of self-absorption is the act of "rejectivity" or rejecting specified groups of people. Erikson elaborated on this term by noting the correlation between rejectivity and what he calls "pseudospeciation," which he defined as the distorted belief that another group not only differs from you but also poses a threat to you ([4], p. 69). For the mature, generative adult, care extends to all, not just to certain groups of people.

The virtue of care arises from the favorable resolution of generativity *versus* stagnation. Erikson notes that "care" includes "to care to do' something, to 'care for' somebody or something, to 'take care of' that which needs protection and attention, and 'to take care not to' do something destructive" ([6], p. 53). An "ethic of care," as expanded by Snarey [13], "is an ethical position that first considers the possible effects on the next generation. Care is an inclusive concern for what love, necessity, and chance have generated. Generative care overcomes the ambivalence associated with irreversible obligations by being inclusively attentive to all that has been created" (p. 228). Giving instead of receiving generates personal contentment. Erikson [1] posits that mature humans "need to be needed, and maturity needs guidance as well as encouragement from what has been produced and must be taken care of" (pp. 266–267). In the process of caring for others, the adult also experiences further growth and personal development. In other words, just as children cannot develop into healthy adults without committed parenting, adults cannot achieve healthy maturity and generativity without the experience of nurturing future generations [7].

Research on adult development has built on or advanced Erikson's concept of generativity. Valliant and Milofsky [14] interpreted the findings of their longitudinal study of working and upper-class men as indicating that two separate developmental tasks (career consolidation *versus* self-absorption; keepers of meaning *versus* rigidity) can be understood as derive from Erikson's concept of generativity. Deemphasizing the significance of crisis, they also suggested a spiral model by which each new

stage balanced off the prior stage in a pendulum swing between “times of change and instability” and a “preoccupation with the preservation of sameness and autonomy and with following and maintaining rules” (p. 1350). A spiral model suggests the evolving, hierachal nature of maturation and the difficulties of development without mastery of each stage. This study also illuminates the role of culture in modifying the tasks of development; cultural differences influence what society deems as suitable developmental tasks for each stage ([14], pp. 1348–1351).

Erikson's concept of generativity also was elaborated in the lives of men by studying the role of fatherhood. Kotre's theorizing [8] and Snarey's [12] research centered on *generative fathering*, which describes men “who contribute to and renew the ongoing cycle of the generations through the *care* they provide as birth fathers (biological generativity), childrearing fathers (parental generativity), and cultural fathers (societal generativity)” (12, p. 1). Additionally, Snarey [12] developed the concept of “generativity chill” to describe the threats to adult generativity, and his four-decade study demonstrated that brief or long-term threats to generativity have considerable impact on a father's selfhood, bringing the father to confront his own mortality and challenging his own generativity with stagnation.

McAdams and de St. Aubin [9] introduce seven interrelated features of generativity: cultural demand, inner desire, generative concern, belief in species, commitment, generative action, and personal narration (p. 1). The creation of the Loyola Generativity Scale attempts to assess self-reported acts and autobiographical experiences to measure the psychosocial dimensions of generativity. McAdams and de St. Aubin [10] elaborate further by pointing to “generativity scripts” or the stories people construct to answer the question of generativity. These stories outline what a person plans to do to ensure that he or she leaves a legacy for the next generation. They posit that identity deals not only with the past and present, but with future life plans of generative action manifested in the life stories or generativity scripts of individuals. Finally, Slater [11] gave new breadth to Erikson's crisis of generativity *versus* stagnation by highlighting the ways in which each of the other seven stages in Erikson's eight-stage model of the life cycle is present and expresses itself as a dimension of middle adulthood. Following Erikson's lead, he presents inclusivity *versus* exclusivity, pride *versus* embarrassment, responsibility *versus* ambivalence, career productivity *versus* inadequacy, being needed *versus* alienation, and honesty *versus* denial (pp. 59–64). Overall, the developmental concept of Generativity continues to be an effective tool for understanding how mature adults care for the next generation.

## Relevance to Childhood Development

The goal of societal generativity directly involves a person in guiding and establishing the next generation. Stagnation in this period of life is counterproductive to the development of successive generations. Lack of generativity can lead to placing excessive pressure and expectations on children to redeem what adults or parents failed to do. Unrealistic burdens such as these hinder a child's development instead of promoting it. Additionally, the adult does not just fulfill the needs of children; children also fulfill the adult's need to be needed. In this sense, a mutual exchange takes place. Viewing a child in this way implies interconnectedness within the life cycle. In essence, based on whether an adult is generative or stagnant, this stage can either promote or hinder the flourishing of the next generation and future generations.

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## Genetic Blueprint

### ► Maturation

## Genetic Disorder

### ► Turner Syndrome

## Genotype

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### Definition

The genetic make up of an individual or group.

### Description

The genotype determines the hereditary characteristics of an individual and is sometimes considered as the allele constitution of any particular trait. Among individuals who are the product of sexual reproduction, the genotype represents the complete set of genes transmitted by both parents. The genotype is often contrasted with the phenotype which refers to individual characteristics determined by nonhereditary experience.

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## Geodon®

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### Synonyms

Ziprasidone

### Definition

A prescription medication FDA approved for the treatment of schizophrenia, acute manic or mixed episodes associated with bipolar disorder, and in acute agitation in people with schizophrenia.

### Description

This medication is an atypical antipsychotic available in capsule or injection.

The recommended starting dose for the oral capsules is 20 or 40 mg twice daily. Maximum recommended dose

is 160 mg a day. This medication should only be taken as directed by a doctor. The intramuscular injection form of this medication is generally just used in the hospital setting.

This medication should be taken with food. Avoid drinking alcohol. Inform your doctor if you have kidney disease, a personal history or family history of heart problems, or other medical conditions.

Some side effects are listed here: twitching or muscle movements you cannot control, sleepiness, headache, dizziness, nausea, chest pain, change in heart rate, rash, anxiety, weight gain, and weakness. Tell your doctor immediately if you notice the following: fainting, slurred speech, or irregular heartbeat. The doctor may check your potassium level with a blood test. Geodon may cause an increase in blood sugar levels and possible weight gain. Elderly patients with dementia-related psychosis taking this class of medications are at increased risk of death. This medication may cause lightheadedness when going from a lying or sitting position, so it is recommended to get up slowly.

This medication should be stored out of reach of children and pets and away from light, heat, and moisture.

### Relevance to Childhood Development

Geodon® is not FDA approved for use in children.

Women should let their doctor know if they are pregnant or planning to become pregnant. Talk with your doctor before breastfeeding.

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## Gerstmann Syndrome

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### Synonyms

Angular gyrus syndrome

## Definition

Gerstmann syndrome is a condition that consists of a tetrad of neuropsychological symptoms including agraphia, acalculia, finger agnosia, and right-left disorientation. The presence of these four symptoms suggests cortical dysfunction in the left parietal lobe. The autonomous nature of the syndrome is debated, and some posit that a developmental form also exists.

## Description

Gerstmann syndrome was first identified and described in a paper by Josef Gerstmann in 1924. In this paper, a case was presented of a patient who exhibited inability to write, to perform mathematical calculations; to recognize, name, or identify fingers; and to discriminate the right and left sides of the body. Gerstmann later reported additional cases of patients with the same tetrad of symptoms, and he hypothesized that these cardinal symptoms resulted from a lesion in the left angular gyrus [7, 14]. Gerstmann believed that a unifying disruption of body image integration, or body scheme, accounted for all four symptoms and was responsible for the shared spatial deficit root of each symptom. Due to this belief of a unifying theme, Gerstmann argued that the symptoms constitute an autonomous syndrome [8].

Researchers and clinicians have subsequently disputed the existence of Gerstmann syndrome as a discrete entity [3, 5]. Cases have been presented consisting of the tetrad of symptoms with no additional deficits [4, 15], often referred to as “pure Gerstmann syndrome.” However, patients frequently exhibit a mixed presentation of symptoms, including some or all of the cardinal symptoms along with other symptoms. Some of these other symptoms include constructional apraxia [2], ideational apraxia [6, 14], alexia [3], hemianopsia [5, 15], color agnosia [5], and aphasia [5, 21]. Because of the overlap and variability of the presentation of the cardinal symptoms with these other deficits, it is argued that an autonomous syndrome does not exist [11]. The tetrad of symptoms is less likely to occur in patients without aphasia than in patients with aphasia, refuting the notion that the disorder is purely spatial [21]. The syndrome may develop in primary form, where no additional deficits have been noted within the course of the illness and the tetrad manifests as the primary presentation. The secondary form refers to cases where the clinical presentation initially includes additional symptoms (i.e., aphasia, constructional apraxia) and over time, most resolve with the exception of the Gerstmann tetrad. Generally intact functions in patients who present with pure or partial Gerstmann

syndrome include intellectual functioning, memory, and personality [7].

The cardinal symptoms of this syndrome most frequently occur following damage to the left parietal lobe, and for this reason the syndrome is thought by some to carry value in regards to lesion localization. The left angular gyrus, located at the inferior parietal lobe at the temporal and occipital junctions, is more specifically implicated, and accounts for the belief that this syndrome is related to deficits with visuospatial processing [4], mental manipulation of images [15], or body scheme [7]. A unifying theme of spatial cognition is evident [26]. Case reports of pure Gerstmann syndrome entail discrete focal damage to this region, such as in a cerebrovascular accident (CVA) or glioma. Patients may present with Gerstmann symptoms secondary to diffuse damage or focal damage to regions other than the angular gyrus as well. Deficits in addition to the cardinal symptoms are more likely to occur in these cases, such as with patients with diffuse posterior cortical atrophy (PCA) who have been observed to exhibit some or all of the Gerstmann syndrome symptoms [25]. The four cardinal symptoms comorbid with other neurological deficits have also been observed in cases with lesions in the left temporo-parieto-occipital lobes, left posterior frontal lobe, and right parietal lobe in left-handed patients [15]. The additional deficits are assumed to be caused by damage to tissue adjacent to the angular gyrus [7]. Of significance, lesions to the angular gyrus may not produce a pure Gerstmann syndrome, yet the identification of a pure Gerstmann syndrome invariably denotes tissue damage to this specific region.

## Finger Agnosia

Patients with finger agnosia are unable to name, identify, recognize, or differentiate their fingers, or imitate finger movements although vision and sensorimotor functioning remains intact. The deficit is not restricted to identifying right versus left [7] and the difficulty is often most pronounced for the three middle fingers [5]. While Gerstmann attributed finger agnosia to a defect with body image, finger gnosis is also mediated by language [14]. The common comorbidity of aphasia with not only finger agnosia, but also the rest of the tetrad of symptoms, supports the claim that Gerstmann syndrome is not a unique disorder but instead the result of multiple presumable etiologies [3]. However, cases of the syndrome without aphasia [16] have corroborated the finding that finger gnosis is an ability reliant upon spatial functioning and can become impaired when language functions remain intact. The left angular gyrus has specifically been

shown during repetitive transcranial magnetic stimulation to disrupt finger schema [22]. Historically, fingers have been instrumental in developing numerical and calculation abilities, which may account for the co-occurrence of finger agnosia and acalculia. When one's ability to recognize and utilize the fingers is blunted, as in a lesion in the angular gyrus, a disruption in arithmetic calculations may ensue, even for adults who do not use their fingers for solving arithmetical problems [22].

### Right-Left Disorientation

Gerstmann found that a disruption in the ability to discriminate and identify the right and left sides of the body, for self and others, was also a commonly observed deficit when body schema was impaired. The disorientation is exhibited despite preserved knowledge of right and left and is often most pronounced for hands and fingers. The disruption usually does not generalize to understanding sidedness for objects outside the space of the body [8].

### Agraphia

This term refers to handwriting deficits despite intact letter recognition, reading, motor, and language abilities. Gerstmann conceptualized this writing impairment as a function of the loss of orientation to the hands and body, citing the spatial functioning required to perform the skill [8]. Copying written words may be less impaired than spontaneous writing. Radiographic studies utilizing functional magnetic resonance imaging has confirmed the presence of writing impairments secondary to damage to the inferior and superior parietal cortices [17].

### Acalculia

Calculation ability is not thought to consist of one discrete function [1]. Disturbances in calculation can result from not only impaired numerical understanding, but also from other deficits, such as spatial relations, language, and memory. Calculation deficits can occur as result of various neuropathologies involving numerous areas of the brain. In cases of primary acalculia, where the ability to understand and execute basic arithmetical calculations is not based on other cognitive deficits such as attention, memory, or language impairment, the left angular gyrus is implicated in the calculation deficit. Recognition of numbers and understanding of numerical concepts remains intact in primary acalculia. It is this precise type of calculation disturbance that Gerstmann [7] postulated was associated with the other symptoms of his syndrome. When agraphia is also present, the acalculia is more pronounced for written arithmetic than oral [12].

### Relevance to Childhood Development

While Gerstmann syndrome typically relates to an acquired condition secondary to cerebral damage, some cases of developmental origin have been reported. In children, however, the symptom presence must be considered relative to the child's developmental level. Rather than absolute inability, a deficient level of skill compared to the expected developmental level of the child may be observed. Developmental Gerstmann syndrome has been recognized more infrequently than the acquired form, possibly due to the difficulty in diagnosing the presence of the symptoms at earlier developmental levels. Another potential explanation for the paucity of information on the developmental form is that other, more well-recognized disorders better account for the symptoms. In the acquired form, symptom onset results from an injury, such as a CVA. The developmental form differs in that no specific injury is identified as the etiology of the symptoms, yet cases have been reported in children both with and without neurologic insults [19]. In case studies with children who exhibit developmental Gerstmann syndrome, soft neurologic signs suggesting parietal lobe involvement, such as gait disturbance, hypertonia, and tremor have also been reported [24]. The syndrome has been hypothesized to be attributable to learning disorders [13], perinatal trauma [12], and developmental delays, but no known etiology exists [18]. Related disorders that may better account for the symptoms of Gerstmann syndrome in childhood include Fragile X syndrome, Williams syndrome, nonverbal learning disabilities, and Asperger's syndrome. Abnormalities in the left parietal lobe often seen in Fragile X syndrome may account for the presence of the cardinal Gerstmann symptoms [9]. In Williams syndrome, which may also include visuospatial deficits, pronounced attention and verbal memory deficits are also seen [10]. Regardless of the presence or absence of developmental Gerstmann syndrome, nonverbal learning disabilities are characterized by impairments in social judgment and problem solving, and Asperger's syndrome includes deficits with social interaction, communication, and personal interests [18].

### Finger Agnosia

Diagnosis of finger agnosia can be difficult in children, as this ability typically develops in later childhood to early adolescence [5]. The term is often used to describe distinct dysfunction in either finger identification or finger naming. In finger identification dysfunction, the child cannot point to or select a given finger on request. Finger naming dysfunction, also called finger anomia, entails the child's inability to name specific fingers on request. In the

developmental form of Gerstmann syndrome, either or both functions may be impaired [24].

### Right-Left Disorientation

It has been demonstrated that the majority of children can discriminate the right and left sides of their body by eight years of age [5]. Right-left disorientation may be seen as slowness or hesitation in responding to tasks requiring right and left differentiation rather than a complete lack of right-left orientation. Simple knowledge of right and left may be intact, yet performance of complex commands may be impaired [19].

### Agraphia

Levels of writing impairment, called dysgraphia, vary in the developmental form of this condition, often regardless of the developmental level of the child [18, 24]. Letter and word formation can be seen as clumsy or illegible, and spelling errors may occur. The impairment may be for spontaneous writing, copying, or both. Letter sequencing and reversal is also common. Demonstrating a visuo-spatial nature of the symptomatology, the underdeveloped penmanship may qualitatively be considered poor use of space [2]. Disorientation for right and left impacts the manifestation of agraphia in some cases, evidenced by improper use of paper margins, misaligned writing, and disoriented letters [24].

### Dyscalculia

The term dyscalculia refers to a developmental lack of acquisition of numerical or mathematical abilities [1]. Developmentally-appropriate understanding of numbers and mathematical concepts remains intact. Dyscalculia may present as difficulty sequencing numbers, writing numbers, or performing calculations verbally or in writing [27]. In dyscalculia, also sometimes referred to as developmental dyscalculia, mathematical abilities are never learned. This impairment contrasts with acalculia, where a previous understanding of mathematical concepts is halted by acquired organic brain dysfunction. In children, the co-occurrence of finger agnosia and dyscalculia are considered evidence of a learning disorder, as numerical concepts and arithmetic skills at early ages are reliant on discrimination of the fingers [26]. The acquisition of simple arithmetic skills can also be understood by examining Piaget's Concrete Operational stage of development [23], where children between the ages of 7 and 11 years typically develop an understanding of the concept of reversibility for logical problem solving. Without ability to utilize this concept, the child may manifest intact abilities,

such as language, yet have impaired abilities with ordering and simple arithmetic.

While constructional dyspraxia may or may not occur with acquired Gerstmann syndrome, many consider it the fifth sign of the developmental form [2]. The child may not be able to copy drawings or manipulate blocks, but the impairment is not attributable to sensorimotor deficits. Contrasting with the acquired form, which frequently presents with aphasia, developmental Gerstmann syndrome typically does not occur with pronounced language deficits [13, 27]. Other associated features of the developmental form may include hyperactivity, attention deficit [28], mild language delays, and behavioral problems such as aggressiveness and temper tantrums [24]. Due to the scarcity of literature, varied causal hypotheses, and reduced reliability in diagnosing individual symptoms of developmental Gerstmann syndrome, there is doubt as to whether the syndrome is an independent developmental disorder. A higher incidence of cases with Gerstmann symptoms may be uncovered through more thorough neurological and neuropsychological assessment for children with learning disabilities, as some argue that the syndrome often goes unrecognized. When the syndrome is identified, averting the child's deficits by teaching compensation skills and utilization of strengths remain common treatment approaches [20].

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## GEs

### ► Grade Equivalents

## Gestalt Play Therapy

### ► Play-Group Therapy

## Gestalt Therapy

### ► Humanistic Therapy

## Gestures

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G

## Synonyms

Action; Body language; Movement; Nonverbal communication; Signal

## Definition

Gestures are bodily movements that are carried out for the purpose of communication. A wave of the hand and a nod of the head are examples of gestures.

## Description

Parts of a body (e.g., hand shape, kinetic movement, face, eyes, and posture) and surrounding environments are used simultaneously when we gesture [1]. For example, when someone says, “Here” with a pointing gesture, the place can be understood only as the specific location the person is referring to. Gestures can express different things. Pointing gestures indicate things, persons, or locations as objects of references. Iconic characterizing gestures provide a visual representation of things to show physical and concrete items (e.g., using hands to show how big or small a physical item is). Symbolic designating gestures express abstract ideas in visible forms (e.g., pointing ahead in space to indicate time, “the future”). Emblematic gestures are patterns of gesture that have been conventionalized within a culture (e.g., thumbs up). People also gesture spontaneously during speech. A speaker’s specific spontaneous gesture is distinguished from iconic representational gestures and emblems because it does not represent any shared meanings among people as iconic gestures or emblems do. Gestures also differ across different languages and cultures because different languages and cultures organize information about events differently. For example, people from southern India or Pakistan may shake their head from side to side to indicate “you’re welcome” or “goodbye.”

## Gesture, Speech, and Thought

According to research findings, speech and gesture are not separate [2, 3]. In the process of making sense to others,

people use not only language but also gesture as a part of multiple resources, which include physical and cultural environments [1]. People may leave out some words and instead substitute them with gesture incorporating the relevant features of the environment. For example, a person holding a cup of hot coffee in a coffee shop may say to a salesperson, “Please give me” with hand shaking gestures up and down quickly indicating a cup sleeve. The relevant features of the environment in this example include physical environments such as the place (coffee shop) and a cup of hot coffee and cultural environments such as the interpersonal relationships between the customer and the salesperson and the context of holding a cup of hot coffee to take out. In meaning-making processes, speech and gesture occur almost at the same time at the very moment of expressing thought. Whereas speech is used to convey more conventional, segmental, and sequential meanings, gesture reflects instantaneous, global, and holistic thought in order to provide additional features of meaning accompanied with utterances.

### Functions of Gestures

Why do we gesture? Individualized spontaneous gestures function for the speaker to compensate for or spur verbal formulation. Gestures can help people keep complex concepts in mind or retrieve certain words. Gestures can be regarded as a resource to construct discourse, which is composed of multiple resources such as speech, gesture, and relevant parts of physical and cultural environments. Gestures reflect a dynamic process of thinking for speaking [2]. They show a relationship between language and thought representation in the mind. Speech gestures are generated during the conceptual process for speaking, in which speech and gesture take place at the same time. Gestures also function as a cohesive device as people narrate discourse. There is a recurrent of one or more gesture features that spread out over a stretch of discourse to maintain reference and achieve cohesiveness in the discourse [3]. Gestures can also reveal meanings beyond speech. Gestures stimulate thought processes as people prepare gestures in advance. People enact their thoughts through gestures and express aspects of utterance content in visible forms.

### Sign, Gesture, and Language

Sign language developed among the deaf shows an indirect relationship to spoken language [4]. Sign languages developed in deaf communities, for example, American Sign Language, are full-fledged languages, which are

distinguished from spoken language and spontaneous individualized gestures. Sign language helps deaf children learn and develop resilient properties of language.

### Relevance to Childhood Development

Gestures play a facilitating role in communication and in early language development [5, 6]. Gestures are used to communicate before children use their voices to express something. Infants can start understanding and using simple gestures around 6–8 months of age (e.g., rhythmic hand movements) [7]. Babies begin to use pointing gestures around 8–10 months of age [7]. Gestures not only precede language development but also have a close relationship to children’s development of words and grammatical structures. For example, babies who are producing single-word utterances may use gestures in combination with words to produce sentence-like combinations (e.g., saying *want* and pointing to candies). These types of gestures and word combinations occur around 18–20 months of age [7]. Gesture continues to facilitate, expand, and speed children’s early language repertoire over childhood development.

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### Gf

► Fluid Intelligence

### Gibberish

► Babbling

## Gifted and Talented Children

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### Definition

Gifted and talented is a label that describes children who possess exceptionally advanced abilities in one or more performance areas.

### Description

#### Identification

Traditionally, gifted children were identified and defined by their advanced intelligence, which was assessed by an IQ test. By this qualifier, a child was deemed gifted if he or she produced scores of approximately 130 or above or the 95th percentile. However, in many cases, there are now other ways for children to qualify and be identified as gifted [5]. Advanced scores on achievement assessments, exceptional grades in school, creativity, leadership, and observed advanced skills are just some of the additional components that may be used in combination with an IQ assessment to identify gifted children from the correction given [3].

#### Traits

Because gifted children can now be identified in many different ways, it is more difficult to distinguish characteristics that only belong to gifted children. If a child is a gifted pianist, than the child's abilities will surely be seen in his or her ability to play the piano. If a child is a gifted mathematician, than the child's abilities will shine while computing formulas and equations. The commonality among the different types of giftedness is the advanced nature of the ability. Gifted children are also often noted for their creativity, leadership skills, and advanced cognitive development.

#### Services

States vary on how they provide services to gifted children. Some states provide no services, and others provide

comprehensive programs including advanced coursework and separate classes for every grade level in all subject areas for gifted students. There is currently no mandated federal funding for gifted education. However, the Javits Act provides funding to gifted education programs serving traditionally underrepresented students [1, 4]. The Javits Act funding is highly competitive. Also, in states that provide services to gifted students, there is not a uniform method for organizing such services into the educational system. Some states place gifted programs within Special Education; others place gifted services within general education programming.

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## Giggle

► Laughter

## Gilles de la Tourette's Syndrome

► Tourette Syndrome

## Girlhood

► Femininity

## Girly

► Femininity

## GLA Deficiency

► Fabry Syndrome

## GLBTQ

► Homosexuality

## Global Assessment of Functioning Scales

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### Synonyms

CGAS; C-GAS; Children's global functioning; GAF; GAPD; Social adjustment

### Definition

Global assessment of functioning scales are intended for use by mental health professionals to rate the overall functioning of their patients, taking into account occupational/school, social, and psychological symptoms.

### Description

There is consensus that clinical indices of overall functioning have utility in treatment of mental illness and impairment [3]. Functional impairment is often the impetus for clinical referral and entry into treatment [4]. Additionally, global assessment scales allow clinicians to integrate information from many areas of the patient's functioning into one clinically meaningful index [2]. This information can then be used in planning treatment and evaluating outcome of interventions.

The Global Assessment of Functioning Scale (GAF; [1]), the Children's Global Assessment Scale (CGAS; [2]), and the Global Assessment of Psychosocial Disability (GAPD; [5]) are the three most commonly used measures of global assessment of functioning. All are numeric scales intended for use by mental health professionals to assess

the general functioning of their patients. The GAF is designed for use with patients of any age, whereas the GAPD is intended specifically for use with children under age 18, and the CGAS is for use with patients aged 4–16. The psychometric properties of all three scales have been recently summarized [3].

Each scale has specific instructions regarding which areas of functioning to assess and which to exclude (e.g., impairment due to physical or environmental limitations), and each differs in terms of the timeframe during which the rating is being made (see [3] for overview). The scales contain clinical descriptors of functioning/symptoms as benchmarks or anchor points, and ratings are made on the lowest level of functioning for the CGAS and the GAPD, whereas the GAF does not specify how to rate if functioning levels vary.

### Relevance to Childhood Development

None of the scales has established psychometric properties for children under 4 years of age, and the reason for selecting age 16 as the upper limit for the CGAS is undocumented [3].

A developmental disabilities modification of the CGAS was published in 2007 (DD-CGAS; Wagner et al.) as the descriptors in CGAS scores are not easily applied to children with developmental disabilities. The DD-CGAS was found to be reliable, with apparent convergent validity for measuring the global functioning of children with Pervasive Developmental Disorders [4].

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## Globus Pallidus

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### Definition

The Globus Pallidus is the medial portion of the lenticular nucleus, narrowly, and one part of the basal ganglia broadly, which plays a prominent role in motor modulation [2].

### Description

The globus pallidus is one portion of the basal ganglia, which is a cluster of subcortical structures that have been tied to the modulation and regulation of motor activities and has also been linked to procedural memory. Together as a working whole, the basal ganglia demonstrate complex interconnections between sensory centers and the cerebral cortex that participate in the control of higher-order movement, particularly in starting or initiating movement [3]. While it is part of the basal ganglia, more narrowly the globus pallidus represents the medial portion of the lenticular nucleus [2]. In terms of its influence on motor activity, the globus pallidus reflects the site at which the excitatory and inhibitory motor pathways of the motor cortex converge [1]. More specifically, this convergence occurs at the internal part of the globus pallidus. The globus pallidus in turn projects to the thalamus and the thalamus in turn projects to the motor cortex [1]. It is the actions of these thalamic projections that controls the size and force of a movement that the cortex produces; however, given the globus pallidus influences the actions of the thalamus, functionally it is likely difficult to separate one from the other. As a result, the globus pallidus may be perceived as determining how weak or how strong a movement may be [1].

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## Glutethimide (Doriden)

► Depressants

## Go/No-Go Task

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### Synonyms

The go/no-go task is similar to the stop-signal task in that both investigate the ability to inhibit a response.

### Definition

The go/no-go is a cognitive task aimed at determining the ability of an individual to inhibit a response deemed inappropriate.

### Description

Experimental paradigms measuring response times (RTs) often assess how the information-processing sequence of perception, decision making, and action are organized. A tool commonly employed in this endeavor is the two choice task which typically requires participants to respond to a presented stimulus using one of two possible choice responses [6]. An alternative tool is the go/no-go task where participants are required to either respond (i.e., pressing designated key) or withhold a response (not pressing designated key) depending on whether a go stimulus or a no-go stimulus is presented (Verbruggen & Logan, 2008). It has been argued that compared to the two choice task, the data collected from go/no-go procedure provides a higher signal-to-noise ratio [7]. The stop-signal task paradigm closely resembles a choice reaction task with the exception that during the presentation of a series of trials, a random presentation of a stop signal will appear (Verbruggen & Logan, 2008). The stop signal indicates to participants that a response should be withheld. The ability to suppress a response (i.e., response inhibition) has been extensively investigated using the stop-signal procedure [10] and go/no-go task (Verbruggen & Logan, 2008). Although there is a tendency for some investigators to treat the go/no-go task and the stop-signal paradigm as one of the same, recent evidence has suggested that differentiating the two may be justified upon the grounds that response inhibition may not be achieved in the same way across the two paradigms (Verbruggen & Logan, 2008).

### Relevance to Childhood Development

The role of behavioral disinhibition is considered fundamental by a number of models of developmental

psychopathology [3]. In general terms, inhibition refers to the ability to ignore extraneous information or to prevent an inappropriate response [5]. One's inhibitory capabilities, whether suppressing a thought, emotion or a particular behavior, is considered to be a key feature of executive control [9]. Executive control refers to a group of interrelated abilities that promote the ability to pursue some thoughts and behaviors whilst suppressing others [1]. With regard to childhood development, inhibitory control is subject to rapid development in childhood between the ages of 3 and 5 [15]. As the capacity of inhibitory control increases with age [17] there is the risk of impairment as implicated in attention deficit/hyperactivity disorder (ADHD) [13].

ADHD is associated with deficits in sustained attention (or inattention), response inhibition, and hyperactivity amongst others [16]. This line of research was mainly prompted by clinical observations linking excessive distractibility, impulsivity, and hyperactivity with failures in inhibition [2]. The go/no-go procedure has proved to be a popular tool in showing that children diagnosed with ADHD exhibit poor inhibitory control [14]. Similar findings were also found with the stop-signal task [12]. There is some evidence, albeit tentative, that behavioral disinhibition has also been found in patients diagnosed with conduct disorder [8]. Nevertheless, there are suggestions that ADHD should be first and foremost be seen as a dysfunction of behavior inhibition [2].

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## Gonads

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## Synonyms

Balls; Testes; Testicles

## Definition

From the Greek work, *gone*, meaning *seed*. It refers to a seed producing gland, such as an ovary or a testis [1].

## Description

Gonads typically refer to the male sex glands. These glands usually occur in pairs. They are located in an external sac of skin in humans called the scrotum behind the penis. The gonads produce and store sperm and are the male's primary source of male hormones, such as testosterone. These hormones control the development of the reproductive organs and other male characteristics, such as body and facial hair, low voice, and wide shoulders [1].

## Relevance to Childhood Development

The male sex glands, gonads, provide the male gamete, or *seed*, that joins with the female gamete to form a zygote

from which the embryo develops. The male seed helps to determine the sex of the zygote and the characteristics inherited from the father. As the male child progresses through puberty, the gonads release the male hormones that control the development of the reproductive organs and other male characteristics [1].

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## Good-Enough Mother

- Object Relations Theory

## Goodenough/Harris Drawing Test

- Draw-A-Person Test

## Goofballs

- Depressants

## Gordon Diagnostic System

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### Synonyms

Computerized assessment of attention and self control;  
Computerized behavior assessment; Continuous performance test; GDS

### Definition

The Gordon Diagnostic System (GDS) consists of 11 tests that aid in assessing Attention Deficit Hyperactivity Disorder.

### Description

The GDS is a portable, microprocessor-based continuous performance test often used in assessing Attention Deficit

Hyperactivity Disorder. The GDS can also be used as a monitor of stimulant medication and as a neuropsychological assessment of post concussion syndrome, closed head injury, neurotoxicity, Fragile X Syndrome, and Alzheimer's disease. The evaluative tests used in the GDS are Standard Vigilance Task, Standard Distractibility Test, Delay Task, Preschool Delay Task, Preschool Vigilance "0" Task, Preschool Vigilance "1" Task, Vigilance "3/5" Task, Adult Vigilance Task, Adult Distractibility Task, Auditory Vigilance Task, and Auditory Interference Task [1]. The outcomes of the evaluations are shown on a printout via the automatic printer output on the instrument. The printout notates the number of correct responses, incorrect responses, and failures to respond.

The GDS has been standardized on approximately 1,300 4–16 year olds. Standardization was primarily performed on a limited selection of individuals in the upstate area of New York, but additional protocols from various populations, including deaf, blind, emotionally disturbed, learning disabled, and Spanish-speaking have been gathered [2]. When the GDS is being used for its primary purpose of providing a behavior-based measure of inattention and impulsivity, three of the tests are used: Delay, Vigilance, and Distractibility. The Delay task provides a measure of the child's ability to inhibit impulsive responding. The Vigilance task assesses the child's ability to sustain attention, respond correctly, and inhibit incorrect responding. The Distractibility task assesses the child's ability to differentiate extraneous stimuli while responding correctly, and inhibiting incorrect responses. Moderate correlations with neuropsychological instruments, behavior-based measures, and teacher and parent evaluations of attention deficit hyperactivity disorders have been found although validity studies have primarily been performed by the developers [1, 3]. The developer recommends that the GDS is to be utilized as only one resource of data to be combined with other resources in evaluating and diagnosing attention difficulties.

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## Grade Equivalents

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### Synonyms

Developmental norms; GEs; Grade scores; Norm referenced scores

### Definition

A type of test score describing an individual's performance in relation to the performance of typical students at a given grade level.

### Description

Grade equivalent scores are commonly used in reporting students' performance in educational settings. Most often, these scores are used to describe performance on academic achievement tests, though grade-based norms and grade equivalent scores are available for some other types of standardized assessment instruments (e.g., cognitive assessment instruments, speech and language assessment instruments).

Grade equivalent scores can be calculated for a test by finding the median (i.e., the 50th percentile) score obtained by children at each grade level on that test. Children who earn the median raw score for a given grade level are assigned a score equivalent to that grade level. Grade equivalent scores are generally expressed numerically in decimal format, with the number to the left of the decimal representing the grade, and the number to the right of the decimal indicating the number of months completed in that grade. For example, a grade equivalent score of 5.8 on a test would indicate that the student receiving that score answered the same number of items correctly as the typical student who has completed eight months of fifth grade.

Despite their frequent use, grade equivalent scores are prone to misinterpretation. Since grade equivalent scores represent a student's performance on a single test, they should not be interpreted to mean that the grade level represented by the grade equivalent score would be more appropriate for the student, or that, overall, the student is performing at the grade level indicated by the score. In other words, if a fifth-grade student obtains a grade equivalent score of 6.0 on a test of reading skill, it means that that student got the same number of items right on that test as the typical sixth-grader in that test's norming sample; however, it does not necessarily mean that the student

reads or requires reading instruction at a sixth-grade level. Additionally, grade equivalent scores do not necessarily increase smoothly as the number of correctly answered items increases. For example, imagine a hypothetical academic achievement test on which the typical third-grader gets 17 items right, the typical fourth-grader gets 19 items right, and the typical seventh-grader gets 21 items right. For a student with a raw score of 17, increasing performance by two points (i.e., to 19) would increase that student's grade equivalent score from 3.0 to 4.0; however, if a student with a raw score of 19 got two additional items right, that student's grade equivalent score would increase much more dramatically (i.e., from 4.0 to 7.0). Finally, if the students who participate in the norming process for a given test are taught academic skills in a different sequence from test-takers, grade equivalent scores are likely to provide inaccurate estimates of skill levels. For these reasons, grade equivalent scores should be reported and interpreted with caution.

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## Grade Retention

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### Synonyms

Failing a grade; Non-promotion

### Definition

Grade retention is the practice in which children are required to repeat a grade level in school because they failed to meet required benchmarks or grade level standards.

### Description

Grade retention, which has been increasingly implemented in recent years, is considered one of the most scrutinized

and debated practices in education. Historically, students have been retained by well-meaning school-based decision-makers when it was believed that holding the child back would allow him/her the opportunity to “catch-up” socially or academically with peers. While teacher-based retention continues, since the 2001 No Child Left Behind (NCLB) Act, large-scale test-based retention policies have been enacted by several states in an effort to address student progression and to end social promotion. Students who fail to meet grade level standards, typically assessed by standardized tests, must be retained according to state law. This has resulted in greater numbers of students retained than ever before in the United States.

Recent estimates indicate that as many as 15% of children are retained each year, with boys, minority students, and poor children retained at the highest rates [9]. Grade retention can occur at any grade level, but practices vary depending on the source with teacher-based retentions occurring in the early grade-school years and test-based retentions occurring throughout the school career at grades designated by state policy.

## Relevance to Childhood Development

Despite the widespread use of grade retention as an intervention, the preponderance of the research suggests there are many long-term negative consequences for children as a result of this practice. While some studies suggest short-term gains in retainees, meta-analyses involving 80 studies failed to support greater levels of academic achievement in retainees when compared to low-performing promoted peers [7]. Additionally, a strong correlation between retention and high school drop-out exists, with one recent longitudinal study finding that compared to promoted students, retained students were five to nine times more likely to drop out of high school [6]. Further, another study found that retainees were much less likely to enroll in college even if they did graduate from high school [4].

In addition to the lack of support for increased academic achievement when using retention as an intervention, negative social-emotional consequences for retained students have been investigated as well. Retention has been found to give rise to the development of low-self esteem in retained students, since these students are usually teased by other non-retained students [2]. Studies have found that children view being retained as a form of punishment and often feel stigmatized throughout their school career [10]. Further, research suggests that children perceive retention as one of the most significant stressful life events that can occur [1, 11] and that it becomes increasingly stressful as the child ages.

With regard to claims that retention enhances the behavioral and social-emotional functioning of children when compared to promoted students, the research is unsupportive as well. In one study, an existing relationship was found between peer rejection and academic outcomes, especially for retained students [8]. Other studies have indicated that retained students are at greater risk of exhibiting disruptive and aggressive behaviors [3, 6] and display poorer social adjustment and more problem behaviors when compared to matched controls [5].

Given the evidence that grade retention is generally considered harmful in many ways, evidence-based alternatives to retention are currently being investigated and implemented. These include incorporating system-wide prevention efforts such as high quality preschool and early reading programs for targeted at-risk groups, as well as providing effective instructional and/or behavioral interventions for students who are identified as experiencing difficulties [7].

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## Grade Scores

- Grade Equivalents

## Graduated Learning

- Dynamic Assessment

## Grain Alcohol

- Alcohol

## Grammar

- Morphology
- Syntax

## GRE/SAT Score

- Standard Scores

## Grey Matter

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### Definition

Grey matter is a form of tissue found in the brain and spinal cord that contains neuronal cell bodies and capillary.

### Description

Grey matter is a form of tissue found throughout the Central Nervous System. It is so termed based on its characteristic grayish-brown color. Grey matter obtains its color from the neuronal cell bodies and capillaries that make up the tissue [2, 3]. This is important because the functionality and survival of the neurons within the

system are dependent upon the integrity of the cell body which controls and maintains the neuronal structure [4]. The presence of grey matter within the various areas of the Central Nervous System demonstrates that nerve cells have their origins and are making rich interconnections in these regions [1]. In terms of its' presence in the Spinal Cord, grey matter is found in the inner part. Functionally, grey matter in the Spinal Cord is composed of cell bodies which help organize movements carried out peripherally [3]. This conduction is made possible by the grey matter also representing the area from which the ventral roots of the Spinal Cord originate. It is through these circuits that transmissions of signals are sent away from the Spinal Cord to the muscles [3]. In regards to the brain, grey matter predominates in the outer layers, forming the cortex, which may be depicted as those areas where functions are housed.

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## Grief

- Cross-Culture Perspective on Bereavement Springer

## Grief Work

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### Definition

Grief work is the working out of psychological issues connected with grief [4].

### Description

Grief is a highly personal experience to which some people recover fairly quickly, while others never do. Grief work is often looked at in three stages. It begins with shock and disbelief, during which the bereaved person begins to accept the painful reality of the loss. Next, the person

will gradually let go of the bond with the dead person. They may become preoccupied with the memory of the dead person during this time. The last stage begins when a person readjusts to life by developing new interests and relationships. This pattern of grief work is common; however, grieving does not necessarily follow a straight line from one stage to the next [4].

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## Grieving

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### Synonyms

Anguished; Inconsolable; Mournful; Sorrowful

### Definition

Grief is the combination of thoughts and feelings you experience surrounding loss [1]. It is not only a response caused by the death of someone loved but also a response characteristic of the loss of something or someone significant in an individual's life. Grieving is the process of separating oneself from losses for survival, for effecting necessary changes in life, and for fostering new attachments and commitments [2, p. 375].

### Description

Grief is a highly personal experience to which some people recover quickly and others never do [4]. Some basic concepts of grief are that it is a natural reaction to loss, each

person's grief experience is unique, there are no "right" and "wrong" ways to grieve, every death is different and will be experienced in differing ways, the grieving process is influenced by a multitude of factors, and grieving never ends [6, pp. 4–6].

The type of response a person will have to grieving is individual and unpredictable. While there are common experiences, each person must go through grief in their own way. Some common response types to grief include behavioral, emotional, social, physical, and spiritual [6].

Mauk and Sharpnack [2] describe three grief response phases, which include avoidance, confrontation, and reestablishment. Avoidance is when a person feels shock, denial, and disbelief. The confrontation phase is a highly emotional state when a person realizes that the significant other or loved one is dead. This phase is the one in which grief is often most intense. The reestablishment phase is the gradual decline of acute grief and the start of reentry into the everyday world.

Another widely studied pattern of grief that is similar to the previous one, and also includes three stages, is defined as a process of grief work. Grief work is the working out of psychological issues connected with grief. It often follows the path of shock and disbelief, preoccupation with the memory of the dead person, and resolution. Although the pattern of grief work just described is common, grieving does not necessarily follow a straight line from shock to resolution [4].

Many experts indicate that to speak of grief "stages" is misleading. Neimeyer [3] explains that all mourners do not follow the same path in their journey, but pass through phases at their own pace. He describes three phases in a typical grief process, which include avoidance, assimilation, and accommodation. Avoidance is when a person avoids the full awareness of reality because it is too painful to absorb. People will often act as if the deceased is still alive, or will imagine they see his or her face. This can be a confusing experience, but it can be said to be a normal reaction to loss. A person in this phase may physically feel numb, distant, or detached from their immediate surroundings. At the behavioral level, one may appear distracted, disorganized, and often unable to complete even routine activities of daily life. The assimilation phase begins as a person gradually starts to absorb the full impact of their loss. One will often begin to experience loneliness, sorrow, and the realization of the loved one's absence. Depressive symptoms likely appear during this phase and include loss of motivation, unpredictable crying spells, pervasive sadness, inability to concentrate, and hopelessness about the future. The last phase is accommodation and occurs as the anguish from the assimilation phase starts to blend into an

acceptance and reality of the death. Gradually, a person will reestablish a greater sense of emotional self-control and return to normal daily living habits.

## Relevance to Childhood Development

Death is viewed in many diverse ways, especially at different ages in a person's life. Often a person's attitude towards death reflects their past experiences and their personality. Typical changes in the way a person feels toward death across the life span will depend on their cognitive development and on the typical or atypical timing of the event [4].

In general, there are some important things to remember when a child is grieving. These include remembering that children go in and out of grief, not all children talk about their grief, some children do not seem affected at all, play is one way children will deal with grief, it is not unusual for children to experience physical reactions or difficulty thinking, a child's developmental age will influence their reaction to the death, and it is not uncommon for children to believe that they have seen or heard the deceased person [5].

Children usually do not understand death or loss as final. However, infants and toddlers have an intuitive sense that something serious has happened, even if they do not entirely comprehend what it is. These young children are able to sense the emotions in their environment as well as read the expressions of others. Children who are grieving during this stage in their life will often present reactions which are sensory and physical. Some common behaviors expected at this age include crying, biting, separation anxiety, temper tantrums, and general anxiety [6].

As a child becomes preschool age they are naturally egocentric. They believe that they cause things to happen and that the world revolves around them. Death for them is often an experience of abandonment and may even believe that they have somehow caused the death. A preschool age child will often show intense but brief grief responses and may also regress to earlier behaviors such as thumb sucking or baby talk [6].

Children grade-school age see the world in a more literal sense and need concrete and detailed explanations of loss situations. They may begin to question how their lives will be different with the loss of someone, what may be the same, and may even wonder if a person is truly deceased [6]. They also have short attention spans and will move from one feeling to another rapidly. For these children, grief can often be misunderstood because "sad" emotions are quickly turned into happiness and playfulness. One must remember that children grieve with the same emotions that adults do, but for children these emotions come and

go in a different way [8]. As children grow older they will begin to understand that death is final. With this feeling of finality, they may also begin to worry about their own death and the death of others. The school age child will often show some common behaviors when grieving that include fighting, anger, withdrawal, regression to earlier behaviors, and not completing assignments [6].

It is important to know that many factors can influence how a child copes with death. Some of these include the nature of the death, past experiences with death, response of others to the death, support systems in and outside of the immediate family, as well as consistency and routines [5].

As a child grows older and enters their teen years, their ways of coping with grief continue to change. Adolescence is a time of identity formation and loss must be affirmed as it uniquely impacts the individual person. When an adolescent has a loss that occurs in their life, they are shocked because most of them feel that nothing can happen to them. Our assumptions about the order of the world collapse when loss occurs outside the normally expected timeline of life events [8].

The Dougy Center for Grieving Children (2004) indicates that there are six basic principles of teen grief. They report that grieving is the teen's natural reaction to a death, each teen's grieving experience is unique, there are no "right" and "wrong" ways to grieve, every death is unique and experienced differently, the grieving process is influenced by many issues, and grief is ongoing.

When you look at adolescence broken down even further into middle and high school ages, even more differences in dealing with grief can be seen. Middle school students are experiencing a vast amount of disorder due to the physical and hormonal changes in their bodies. When the additional stress of grief is added to this they will likely experience a range of emotional reactions. This is also the time in which a teen will begin to get their principal support from friends rather than family. Some other common grief behaviors to expect in a middle school student include anger, fighting, moodiness, and risk-taking behaviors [6].

As a teen enters into high school they will often become more philosophical about life and death, and may believe that death won't happen to them. Teens at this stage will appear to use an "adult" approach to solving a problem; however, it is important to remember that high school students are not adults yet. Some common behaviors to expect include withdrawal from parents or other adults, pushing the limits of rules, lack of concentration, evidence of crying, sleepiness, angry outbursts, and increased risk-taking behaviors [6].

No matter what age a teenager actually is, their level of emotional and physical maturity, past experiences and family dynamics all influence his or her grief response. A grieving teen may feel conflicted about letting go of the deceased, attached to (yet separated) from the deceased, embarrassed about showing emotions, ambivalent about the person who died, or awkward about being different from their peers [7].

Some overall reactions to grief from a teen may include academic problems, crying, eating problems and disorders, nightmares and dreams, physical reactions, playing, regressive behaviors, suicidal talk or behaviors, sensory experiences. Some common emotions include anger, frustration, guilt, anxiety, isolation, relief, revenge and rage, sadness [7].

Even though grieving manifests itself differently from adults, the needs leading in the direction of resolution are the same [2]. Some basic needs of a grieving teen (or child) include assurances, boundaries, choices, food, listeners, models, privacy, recreation, routines, sleep, and truth [7]. One must remember that a child's grief responses are natural reactions when they are experiencing the loss and separation from someone they were close to and/or loved [2].

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## Gross Impairment in Reality Testing

### ► Childhood Psychosis

## Group Activity Therapy

### ► Play-Group Therapy

## Group Embedded Figures Test

### ► Embedded Figures Test

## Group Homes

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### Synonyms

Extrafamilial home; In residence; Residential care; Residential group care; 24-hour care

### Definition

Group homes are community based care facilities designed to provide resources to children and youth who experience abuse and/or neglect and must be removed from their homes. Group homes also include residential treatment centers for children with mental disorders and/or disabilities [5]. Group homes vary by community and include staffed residential homes and large institutions like residential schools, detention facilities, mental health centers, psychiatric wards, boarding schools, or orphanages (Anglin 2002). They do not include foster homes or family-based homes.

### Description

Group home care is one of the most common community-based residential treatment placements for youth with the most difficult to treat combinations of psychiatric disorders, aggressive behavior, and histories of complex and extended personal and family problems [4]. Group homes employ staff members to attend to and teach children daily living and self-care skills, so that they may be able to provide for and take care of themselves. Daily living skills include cooking meals, doing laundry, cleaning, managing money, and learning to interact socially; self-care skills include bathing, dressing, eating, and taking needed medications [5].

It is important to note that many of the children in group homes are not considered orphans; a majority of

these children have families. The families, however, are unable to provide and/or appropriately care for their children for various reasons. It is important for the children to maintain a link to the biological family because there is a chance that they may be reunited if conditions in the family improve (Anglin 2002).

In group homes, the staff is able to help children address issues with relationships, socialization, economic concerns, and emotional well-being (Anglin 2002). All of these functions are characteristic of family life which group home staff members work to incorporate so that children may get the support that is needed as well as become well-rounded individuals. However, there is research to suggest that these settings fall short of providing a family-like atmosphere because they may not provide love and a sense of belonging (Anglin 2002).

The term “group home” implies that a home-like environment is offered; however, since many group home settings are institutional it is hard to create an intimate, loving experience. The staff of the group home is required to maintain control at all times [1]. Therefore, it is in the overall best interest of the children for the staff to maintain a hierarchy and contain problem situations right away; this results in an incongruence between the desired affects of group home living and the reality [1] (Anglin 2002).

Adequate attention to proper group home care involves sincere and constant engagement with the children and for each individual child as to not hinder their positive development [1]. Important factors to consider include the physical environment, opportunities for social interaction with peers and staff, access to adequate food, and positive attitudes from the staff [1]. Appropriate attention to these factors can predict the quality of children’s experiences in group homes.

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## Group Investigation (GI)

- Cooperative Learning

## Group Play Therapy

- Play-Group Therapy

## Group Psychotherapy

- Group Therapy
- Play-Group Therapy

## Group Therapy

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### Synonyms

Group psychotherapy; Psychosocial therapy

### Definition

Group therapy is a form of psychosocial treatment where a small group of patients meet regularly to talk, interact, and discuss problems with each other and the group leader (therapist).

### Description

A psychologist, psychiatrist, social worker, or other healthcare professional typically arranges and conducts group therapy sessions. In some therapy groups, two individuals or co-therapists may share the responsibility of group leadership. Patients are selected on the basis of what they might gain from group therapy interaction and what they can contribute to the group as a whole.

Therapy groups may be homogeneous or heterogeneous. Homogeneous groups have members with similar diagnostic backgrounds (for example, they may all suffer from depression). Heterogeneous groups have a mix of individuals with different emotional issues. The number of group members varies widely, but is typically no

more than 12. Groups may be time limited (with a predetermined number of sessions) or indefinite (where the group determines when therapy ends). Membership may be closed or open to new members once sessions begin.

The number of sessions in group therapy depends on the makeup, goals, and setting of the group. For example, a therapy group that is part of a substance abuse program to rehabilitate inpatients would be called short-term group therapy. This term is used because, as patients, the group members will only be in the hospital for a relatively short period of time. Long-term therapy groups may meet for six months, a year, or longer. The therapeutic approach used in therapy depends on the focus of the group and the psychological training of the therapist. Some common techniques include psychodynamic, cognitive-behavioral, and Gestalt therapy.

In a group therapy session, group members are encouraged to openly and honestly discuss the issues that brought them to therapy. They try to help other group members by offering their own suggestions, insights, and empathy regarding their problems. There are no definite rules for group therapy, only that members participate to the best of their ability. However, most therapy groups do have some basic ground rules that are usually discussed during the first session. Patients are asked not to share what goes on in therapy sessions with anyone outside of the group. This protects the confidentiality of the other members. They may also be asked not to see other group members socially outside of therapy because of the harmful effect it might have on the dynamics of the group.

The therapist's main task is to guide the group in self-discovery. Depending on the goals of the group and the training and style of the therapist, he or she may lead the group interaction or allow the group to take their own direction. Typically, the group leader does some of both, providing direction when the group gets off track while letting them set their own agenda. The therapist may guide the group by simply reinforcing the positive behaviors they engage in. For example, if a group member shows empathy to another member, or offers a constructive suggestion, the therapist will point this out and explain the value of these actions to the group. In almost all group therapy situations, the therapist will attempt to emphasize the common traits among group members so that members can gain a sense of group identity. Group members realize that others share the same issues they do.

The main benefit group therapy may have over individual psychotherapy is that some patients behave and

react more like themselves in a group setting than they would one-on-one with a therapist. The group therapy patient gains a certain sense of identity and social acceptance from their membership in the group. Suddenly, they are not alone. They are surrounded by others who have the same anxieties and emotional issues that they have. Seeing how others deal with these issues may give them new solutions to their problems. Feedback from group members also offers them a unique insight into their own behavior, and the group provides a safe forum in which to practice new behaviors. Lastly, by helping others in the group work through their problems, group therapy members can gain more self-esteem. Group therapy may also simulate family experiences of patients and will allow family dynamic issues to emerge.

Self-help groups like Alcoholics Anonymous and Weight Watchers fall outside of the psychotherapy realm. These self-help groups do offer many of the same benefits of social support, identity, and belonging that make group therapy effective for many. Self-help group members meet to discuss a common area of concern (such as, eating disorders, bereavement, parenting). Group sessions are not run by a therapist, but by a nonprofessional leader, group member, or the group as a whole. Self-help groups are sometimes used in addition to psychotherapy or regular group therapy.

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## G

## Group-Oriented Cultures

### ► Collectivist Cultures

## Growth

### ► Maturation

## Growth Faltering

- Failure to Thrive Syndrome

## Guarantine

- Caffeine

## Guardianship

- Joint Legal Custody

## Guffaw

- Laughter

## Guilt

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### Definition

Guilt is an adaptive self-conscious emotion, typically evoked in situations of failing to achieve a goal or standard and when failure is attributed to internal transitional states, inappropriate actions, or non-stable internal characteristics such as lack of effort.

### Description

Guilt is experienced when an individual fails to meet personal standards or goals even after exerting a great deal of effort to achieve a successful outcome and the end product has personal implications. Individuals experience guilt when they have committed a wrongdoing directly or haphazardly and feel personal responsibility for the consequences [1]. The emotion of guilt includes the self as a frame of reference and involves a certain degree of self-evaluation. Guilt is regarded also as a moral emotion, as it involves some degree of dilemma

and conflict; it is based on relationships within a social context and results in the individual's intent to repair the unfortunate situation. The emotion of guilt has specific adaptive purposes. It could prevent transgression as well as encourage reparative behaviors in situations of wrongdoing.

Guilt is experienced in situations of failure attributed to internal factor and when the wrongdoing is perceived as controllable or avoidable [4]. Beliefs about controllability are exemplified by an implicit desire to repair the situation or avoid the wrongdoing in the future, rationalize the misdeed, or confess. In interpreting the wrongful act, the person feels remorseful and regretful. He/she focuses on the behavior that led to the transgression, rather than on making judgments about global imperfections of the self. Guilt co-occurs with other emotional states such as sadness, tension, worry, anxiety and restlessness and is believed to have some genetic underpinning [7]. Gender differences in the experience of guilt are also present. Parent-child transactions in early childhood have been acknowledged to play a substantial role in the socialization of guilt.

### Relevance to Childhood Development

Guilt does not typically emerge before the age of 2½ and 3 year and it has both cognitive and social antecedents. One of the prerequisites is the sense of conscience and self-representation, which typically develop between 18 months and 2 years of age. During this age period, the child begins to react with distress when he/she violates a rule or a standard for behavior [3, 7]. The experience of anxiety and discomfort following a wrongful act is considered a precursor of guilt [3]. During the second half of the third year of life, another important cognitive milestone is achieved: the child becomes able to acquire and retain standards and rules for appropriate behavior [4]. Adaptive forms of guilt develop out of parental use of socialization techniques such as reasoning and induction, which consist of clearly defining expectations for appropriate behavior and providing explanation for the nature of consequences of the child's behavioral transgression on others. Induction and reasoning facilitate to a great extent the process of internalization [2, 5]. Evaluative feedback, frequently communicated by parents, enhances the growing child's understanding of the social meaning and significance of his/her behavior and leads subsequently to the internalization of adults' imposed standards for and expectations of acceptable behavior. The growing child acquire the ability to evaluate his behavior in conjunction with those standards, recognizes inconsistencies between the standard and behavior, and experiences discomfort,

anxiety and guilt when they are violated or a transgression is committed [3, 7].

Although young children do experience rudimentary forms of guilt, they do not possess a complete understanding of the emotion; neither can they reason about the factors that trigger it. In younger children's accounts, guilt is often associated with having done something naughty, feelings of regret, and a desire to repair the situation out of fear of being punished. A full understanding of the emotion and its elicitors is achieved later in life when the child acquires the ability to make explicit causal attributions. Before the age of six or seven, children learn to associate guilt with failure. It is not until the elementary school years, however, when they become capable of linking failure to lack of effort or other internal factors perceived in one's control. Thus, older children become more likely to report feeling guilty when failure occurs in the context of avoidable, controllable and preventable factors. In this respect, older children's and adults' understanding of guilt becomes increasingly similar [1, 2, 5].

In addition to normal developmental changes, individual variations in guilt experiences are also present. Girls tend to be more self-conscious and experience guilt more frequently. It has been suggested also that individual differences in temperament could contribute to differential socialization of guilt. That is, a child who is temperamentally predisposed to experience emotions with high intensity, is likely to experience also high levels of distress and discomfort following a misconduct; in turn, the transgression is likely to be attributed to internal to the self characteristics acting as an inhibitor for similar transgressions in the future [3, 7]. Inhibited and fearful toddlers were found to be more prone to internalized conscience at later ages, and therefore, more amenable to socialization and moral internalization [3]. In addition, some children tend to develop maladaptive forms of guilt, the so called "guilt-prone" style, as a result of a repeated exposure to guilt provoking experiences. The proneness to guilt is characterized by rumination over mishaps and misdeeds, blame-worthiness, excessively taking responsibilities for negative events, and a sense of unworthiness [7]. It has been

suggested that the parental use of socialization techniques such as power assertion and love withdrawal in early childhood is one of the sources of development of maladaptive guilt. Power assertion and love withdrawal are construed as fostering an external moral orientation in the child, which is manifested by lack of concerns about consequences for others and desire to avoid infringement of personal interests. Excessive guilt has been associated also with symptoms of depression [6].

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## Gurgle

► Cooing

